

# The Influence of Strength Training on the Special Achievements of Athletic Sports

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**ABSTRACT.** *There are various methods and forms of strength training, but how to use strength training to improve the performance of special sports, is an important topic worth discussing. It is necessary not only to develop athletes' muscle strength, but also to improve their coordination of movement and technology, so as to effectively exert the effect of strength training. In this paper, the author mainly discusses the concepts of special strength and general strength, and analyses how to use strength training to improve athletes' performance in special sports.*

**KEYWORDS:** *Strength Training; Athletic Sports ; Special Achievements; Influence*

## 1. Introduction

Strength training is a relatively basic link in sports training. In a sense, all sports should basically carry out strength training. In different types of special training projects, the training methods and means adopted are also different. In the daily training process, most coaches will do high-intensity strength training for athletes, but they have not combined this kind of strength training with the characteristics of the special sports, which makes the strength training effect fail to translate into good special achievements.

## 2. The definition of special strength and general strength

Specific strength refers to the amount of strength produced by the contraction of the muscles of an athlete in the special sports events. Due to the diversity of sports characteristics, special forces will have different forms of expression. The strength training that athletes can achieve through sports equipment will make the movements relatively simple and mechanical, but this form of training in a sense will make the special strength effect worse, even the same as the general strength training effect. In the training process of special strength, athletes should try their best to complete the strength simulation exercises of special sports according to the requirements of the speed and way of the special sports and the strength and form of the contraction of muscles.

General strength refers to the different strength produced by muscle contraction

during non-specific exercise. There are two main factors that can improve the muscle strength of athletes through general strength training: one is to change the overall shape and structure of the muscle, such as increasing the muscle volume, which can be achieved through general strength training; the other is to improve the ability to use nerves to regulate movement. For example, in the sprint training process, the contact time between foot and ground is very short. In addition to foot-to-ground exercise, lower limb strength exercise should also be carried out. This situation requires athletes to shorten the time of exertion, formulate precise and detailed special strength training plan, so that the speed and type of muscle contraction, the way of movement and the extent of using strength can be maintained at a reasonable and scientific level, similar to or exactly the same as the special characteristics. Otherwise, the effect of strength training will not meet the requirements of special training[1].

### **3. Strategies to improve athletes' special achievements through strength training**

At the present stage, athletes mainly use weight training and apparatus training to improve their own strength. These two types of training belong to general strength training and are the basis for athletes to carry out the next special strength training. The movement characteristics of the exercise have nothing to do with the special characteristics of special strength training. After their own strength and muscle volume increase, athletes should take special strength training as the main training mode.

If athletes' own strength and muscle level are relatively high, they still adopt repetitive and mechanical strength training methods, which will make it difficult for athletes to improve their special achievements in complex and difficult sports. For example, long-term weight bearing and squat training can significantly improve athletes' performance in squat, but not in high jump; the exercise of fast bench press barbell will greatly improve the performance of athletes in shot put throwing, but for throwing discus and javelin throwing these two sports, there is no great result improvement effect[2]. Squat exercise is helpful to improve the strength of lower limbs of sprinters, but it is difficult to change the performance of sprinters. It is difficult to improve the running ability of football players if they add a lot of strength training in the daily training. All of these examples show that strength training can improve the activity ability of training itself to a certain extent, but cannot synchronously improve the ability of other forms of exercise. The effect of this training mode is only the unity of function and form. If athletes want to improve their special sports ability through a lot of strength training. When they do strength training, they should organically combine with the specific characteristics of special sports. The higher the degree of combination, the greater the improvement of the achievements of special sports. Only by combining the specific characteristics of special sports and launching strength training can we further improve the performance of special sports[3].

#### **4. The relationship between strength training and endurance and speed**

##### ***4.1 The relationship between strength training and endurance***

There is a bad relationship between the increase of athletes' muscle strength and the improvement of their aerobic endurance. Sports training will not only cause muscle hypertrophy, but also may cause the hypertrophy of athletes' ventricular wall and decrease the output of their heart during the training of strength related to resisting large groups. Athletes should pay attention to the form of high repetition and low load when carrying out weight bearing strength exercises[4].

##### ***4.2 The relationship between strength training and speed***

In the actual exercise process, the faster the contraction speed of the athletes' muscles, the less muscle strength can be used. Generally speaking, if sprinters without systematic training are trained for several weeks, they may find that their running ability has not been significantly improved. In other words, the effect of strength training is not as obvious as that of simply using up and down hill running. For sports with relatively fast muscle contraction speed, explosive strength training mode can be adopted, which is conducive to enable athletes to use their own nervous system to regulate muscle activity[5].

#### **5. Side effects of excessive strength training**

Strength training is an essential part of the athletes' sports career. It can be divided into two stages: developing muscle strength and maintaining existing muscle strength. The training methods, amount and methods used in these two stages are different. Exercise training, if excessive, is easy to cause muscle fatigue phenomenon of athletes. Therefore, coaches should rationally arrange strength training plans according to their own characteristics, such as gender, age, specialty, sports characteristics and training level.

#### **6. Conclusion**

In a word, the greater the difference between the forms of strength exercises and the forms of specific exercises, the smaller the effect that can be achieved on improving the performance of specific exercises. The method and form of carrying out special strength exercises are specific, which is conducive to improving athletes' performance in special sports. For the high-quality athletes who have developed muscle strength, excessive general strength exercise may have a negative effect, and reasonable explosive strength training should be carried out, so as to effectively play the due role of strength training.

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